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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte WENDELL B. COLSON, PAUL SWISZCZ,
and DAVID HARTMAN

Appeal 2007-4239
Application 09/869,941
Technology Center 1700

Decided: February 29, 2008

Before EDWARD C. KIMLIN, CHUNG K. PAK, and
LINDA M. GAUDETTE, *Administrative Patent Judges*.

PAK, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the Examiner's refusal to allow claims 158 through 199, all of the claims remaining in the above-identified application. We have jurisdiction pursuant to 35 U.S.C. § 6.

STATEMENT OF THE CASE

The subject matter on appeal is directed to “nonwoven fabric materials” (Spec. 1, para. 0001). Further details of the appealed subject matter are recited in representative claim 158 reproduced below:

158. A nonwoven fabric comprising:

a first layer of substantially parallel first yarns; and

a second layer of substantially parallel second yarns;

the first and second yarns being substantially perpendicular to one another and the first and second layers being adhered together with an adhesive, wherein:

(a) the adhesive is applied to one side of the first layer of substantially parallel yarns in a discontinuous manner;

(b) the adhesive forms random bridges between substantially parallel yarns of the first layer; and

(c) the adhesive is located substantially only between the first and second layers of the adhered together substantially perpendicular yarns.

At paragraph 0005 of pages 2 and 3 of the Specification, the Appellants state that:

Reference to the term “yarn” will be made throughout the present specification and the term should be broadly interpreted to include mono and multi-filament yarns and/or strands of various materials. The yarns may be large or small in diameter or denier, and can be made from many types of materials including, but not limited to, polyester, polyethylene, polypropylene and other polymers or plastics; wool, cotton, hemp and other natural fibers; blends of natural and/or synthetic fibers; as well as fiber-substitutes such as glass, metal,

graphite and the like. It is conceivable that some of the warp and/or weft yarns may be metal and/or metal alloys such as, for example, copper and/or aluminum wire, or combinations of metal and synthetic or natural fibers. It should also be appreciated with the description that follows that various densities of warp or weft yarn wrap will be referenced and these densities will vary depending upon the type of yarn as described above and the desired characteristics of the nonwoven product being manufactured.

The Examiner has relied upon the following references:

Hartstein	U.S. 3,591,434	Jul. 6, 1971
Pittman	U.S. 3,753,842	Aug. 21, 1973
Sabee	U.S. 4,910,064	Mar. 20, 1990
Jarrell	U.S. 5,294,258	Mar. 15, 1994

The Examiner has rejected the claims on appeal as follows:

- 1) Claims 158 through 161, 164 through 166, 169, 170, 172 through 176, 178, 179, 186 through 188, and 192 through 199 under 35 U.S.C. § 102(b) as anticipated by the disclosure of Sabee;
- 2) Claims 162, 163, 167, 168, 171, 177, 180 through 185, and 189 through 191 under 35 U.S.C. § 103(a) as unpatentable over the disclosure of Sabee¹;
- 3) Claims 168, 190, and 191 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Sabee and Pittman;

¹ The Examiner clearly states at page 9 of the Answer that claim 171 is rejected and provides appropriate factual findings and reasoning in support of this rejection. Accordingly, claim 171 has been included in this statement of rejection to reflect the actual rejection set forth in the Answer.

4) Claims 158 through 167, 169 through 189, and 192 through 199 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Hartstein and Jarrell; and

5) Claims 168, 190, and 191 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Hartstein, Jarrell, and Pittman

The Appellants appeal from the Examiner's decision rejecting the claims on appeal under 35 U.S.C. §§ 102(b) and 103(a).

FACTS, PRINCIPLES OF LAW, ISSUES, AND ANALYSES
ANTICIPATION

Under 35 U.S.C. § 102, anticipation is established only when a single prior art reference discloses, either expressly or under the principle of inherency, each and every element of a claimed invention. *In re Spada*, 911 F.2d 705, 708 (Fed. Cir. 1990). The law of anticipation, however, does not require that the prior art reference teach the purpose and/or utility contemplated by the Appellants, but only that the claims on appeal “read on” something disclosed in the prior art reference. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 772 (Fed. Cir. 1983).

Here, the Examiner has found at page 3 of the Answer that:

Sabee discloses a nonwoven web comprising a number of substantially parallel continuous filaments that are stabilized by meltblown fibers (abstract). The meltblown fibers are deposited on one side of the continuous filaments and two or more parallel webs may be cross laid and laminated to each other (abstract). The meltblown fibers lock the parallel filaments in a parallel, linearly oriented laydown pattern (column 5, lines 30 - 35).

The Appellants only contend that Sabee does not teach applying meltblown fibers (adhesive) to only one side of a first layer of substantially parallel yarns so that the meltblown fibers are located “substantially only between the first and second layers” as required by claims 158 through 161, 164 through 166, 169, 170, 172 through 176, 178, 179, 186 through 188, and 192 through 199 (App. Br. 20-34).

Thus, the dispositive question is whether Sabee teaches applying meltblown fibers (adhesive) to only one side of a first layer of substantially parallel yarns so that the meltblown fibers are located “substantially only between the first and second layers” within the meaning of 35 U.S.C. § 102(b). On this record, we answer this question in the affirmative.

As correctly found by the Examiner at page 12 of the Answer, While Sabee does disclose adding multiple adhesive layers to the composite fabric, as shown in the figures and section highlighted by the applicant, Sabee also discloses using a single adhesive layer. Sabee discloses that the adhesive meltblown fibers can be deposited on one or both sides of the continuous filaments, with two or more cross laid webs laminated together (abstract). Specifically, Sabee discloses that a layer of parallel continuous filaments are[sic., is] stabilized by *depositing small diameter melt blown fibers onto one or both sides of the filament array* (column 10, lines 43- 50). The meltblown fibers would produce random, discontinuous bridges of adhesive between the parallel filaments. The web is then be [sic.] furthered [sic., further] process[ed] by cross lapping or cross laying webs of continuous filaments onto the adhesive bonded filament array (column 10, lines 58 - 62). Thus, Sabee provides sufficient teaching for one having ordinary skill in the art to limit the adhesive to a single side of the filament array, and more particularly, to a single adhesive layer between two cross-plied continuous filament arrays. [Emphasis added.]

Moreover, as recognized by the Appellants, “Figures 9 and 10 of Sabee show that ... Sabee’s molten melt blown fibers are deposited only on one side of his filaments” (App. Br. 22). We find that these melt blown fibers coat the filaments to the same or similar extent as those shown in the Appellants’ Figure 61A and 61B depicting “substantially only between the first and second layers.” From our perspective, Figures 9 and 10 do not contradict the specific teachings of Sabee.

Even were we to accept the Appellants’ contention that applying the meltblown fibers (adhesive) only on one side of the filaments as taught by Sabee does not result in placing the meltblown fibers (adhesive) “substantially only between the first and second layers” as required by claims 158 through 161, 164 through 166, 169, 170, 172 through 176, 178, 179, 186 through 188, and 192 through 199, our conclusion would not be altered. Although these claims require at least one adhesive (meltblown fibers) be placed “substantially only between the first and second layers,” they, by virtue of using “comprising,” permit the inclusion of additional materials, including additional adhesives (meltblown fibers) on different parts of “the first and second layers.” *In re Baxter*, 656 F.2d 679, 686-87 (CCPA 1981). In other words, we determine that the claims, as recited, “read on” placing at least two adhesives (meltblown fibers), with one on one side of the filaments “substantially only between the first and second layers” and the other on the remaining circumference of the filaments not between “the first and second layers.”

Accordingly, we concur with the Examiner that Sabee anticipates the subject matter defined by claims 158 through 161, 164 through 166, 169,

170, 172 through 176, 178, 179, 186 through 188, and 192 through 199 within the meaning of 35 U.S.C. § 102(b).

OBVIOUSNESS

Under 35 U.S.C. § 103(a), the factual inquiry into obviousness requires a determination of: (1) the scope and content of the prior art; (2) the differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) secondary consideration (e.g., unexpected results). *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18 (1966). “[A]nalysis [of whether the subject matter of a claim would have been obvious] need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int’l v. Teleflex, Inc.*, 127 S. Ct. 1727, 1740-41 (2007) quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006); see also *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1361 (Fed. Cir. 2006)(“The motivation need not be found in the references sought to be combined, but may be found in any number of sources, including common knowledge, the prior art as a whole, or the nature of the problem itself.”). The analysis supporting obviousness, however, should “identify a reason that would have prompted a person of ordinary skill in the [art] to combine the elements” in the manner claimed. *KSR*, 127 S. Ct. at 1741.

As evidence of obviousness of the subject matter defined by claims 162, 163, 167, 168, 171, 177, 180 through 185, and 189 through 191 under 35 U.S.C. § 103(a), the Examiner has relied on the disclosure of Sabee. The disclosure of Sabee is discussed above. The Examiner has acknowledged at pages 8 through 10 of the Answer that Sabee does not expressly mention the claimed fabric and adhesive weights, adhesive thicknesses, metal fibers, and yarn densities. However, the Examiner has determined that the selection of the claimed fabric and adhesive weights, adhesive thicknesses, metal fibers, and yarn densities is well within the ambit of one of ordinary skill in the art (*id.*).

The Appellants do not challenged the above determination. Rather, the Appellants only contend that Sabee would not have suggested applying meltblown fibers (adhesive) to only one side of a first layer of substantially parallel yarns so that the meltblown fibers are located “substantially only between the first and second layers” as required by claims 162, 163, 167, 168, 171, 177, 180 through 185, and 189 through 191 (App. Br. 54-63). We are not persuaded by this contention for the reasons set forth above.

Accordingly, based on the findings set forth at pages 8 through 10 of the Answer and above, we concur with the Examiner that Sabee would have rendered the subject matter defined by claims 162, 163, 167, 168, 171, 177, 180 through 185, and 189 through 191 obvious to one of ordinary skill in the art within the meaning of 35 U.S.C. § 103(a).

As evidence of obviousness of the subject matter defined by claims 168, 190, and 191 under 35 U.S.C. § 103(a), the Examiner has relied on the

combined disclosures of Sabee and Pittman. In addition to the Examiner's finding directed to Sabee discussed above, the Examiner has correctly found at page 11 of the Answer that:

Further, Sabee discloses that various materials can be used to make the parallel yarns including thermoplastic filaments and natural fibers. Pittman is drawn to bi-axial laminated nonwoven fabrics. Pittman discloses that synthetic fibers such as rayon, nylon, polyester, and glass can be used to produce the nonwoven fabric (column 2, lines 41-53).

Based on the above findings, the Examiner has correctly concluded (Ans. 11) that:

[I]t would have been obvious to one of ordinary skill in the art to use the types of synthetic fibers taught by Pittman in the nonwoven fabric taught by...Sabee, since...Sabee suggests that various fiber materials [inclusive of those taught by Pittman] can be used to produce the nonwoven fabrics. Further, [one of ordinary skill in the art would have reasonably expected that]... nylon, polyester, and glass fibers, would give the final product different strength, flexibility and stability properties than natural fibers [and their employment is dependent on the intended applications of the nonwoven fabrics].

The Appellants contend that Sabee does not teach or suggest "the claimed non-uniform, i.e., discontinuous, random bridges of adhesive applied to" only one side of the first yarns (App. Br. 70).

The dispositive question is, therefore, whether Sabee teaches or suggests "the claimed non-uniform, i.e., discontinuous, random bridges of adhesive applied to" only one side of the first yarns within the meaning of 35 U.S.C. § 103(a). On this record, we answer this question in the affirmative.

As correctly found by the Examiner at pages 15 and 16 of the Answer:

Sabee discloses a composite comprising arrays of parallel, continuous filaments bonded together by random, discontinuous meltblown fibers. As shown in the figures the meltblown fibers connect together adjacent parallel yarns. Therefore, these [discontinuous, random adhesive] features are taught by Sabee....

Moreover, as indicated *supra*, Sabee teaches applying at least one such adhesive (meltblown fibers) on one side of the yarns so that the adhesive is located “substantially only between the first and second layers” as required by claim 158.

Accordingly, based on the findings at pages 3, 4, 11 through 13, 15 and 16 of the Answer and above, we concur with the Examiner that Sabee and Pittman would have rendered the subject matter defined by 168, 190, and 191 within the meaning of 35 U.S.C. § 103(a).

As to the Examiner’s § 103(a) rejections based on at least Hartstein and Jarrell, they stand on different footing. We find that Hartstein teaches forming a bi-axial laminated non-woven web by bonding a plurality of yarns on the opposite sides of a self-supporting thermoplastic film (col. 1, ll. 11-57 and col. 2, l. 43 to col. 4, l. 17). We find that Hartstein teaches that during the formation of the bi-axial laminated non-woven web, the self-supporting thermoplastic film must “remain structurally intact” (col. 2, ll. 60-64). We find that Hartstein teaches (col. 1, ll. 58-63) that:

The fabric which results from the above combinations is extremely versatile and is capable of being employed in many ways. For example, it may be used as reinforcing materials, as window blinds, as a backing material for rugs, [and] as seat

cover material[s]. In addition, it may be utilized as a table placemat or as decorative wall paper.

The Examiner has recognized (Ans. 13) that:

Hartstein fails to teach bonding the two sets of parallel yarns with a discontinuous adhesive layer comprising random bridges which connect the adjacent parallel yarns (Brief, pages 35 and 36).

To remedy this deficiency, the Examiner has relied on the disclosure of Jarrell to show the claimed discontinuous adhesive layer (Ans. 5). The Examiner then goes onto conclude (Ans. 5-6) that:

[I]t would have been obvious to one of ordinary skill in the art to substitute the adhesive layer taught by Jarrell et al. for the adhesive film layer taught by Hartstein to produce a finished product which is breathable and flexible and has good hand.

The Examiner's proposed combination, however, would destroy the invention on which Hartstein is based. *Ex parte Hartman*, 186 USPQ 366, 367 (BPAI 1974). Contrary to the teachings of Hartstein, as correctly pointed out by the Appellants (Br. 38), the Examiner's proposed substitution would materially change the structure of the thermoplastic film; no self-supporting structurally unchanged film is present. Moreover, the Examiner has not explained how the proposed substitution, without the structure desired by Hartstein, would result in a fabric which "is extremely versatile and is capable of being employed . . . as window blinds, as a backing material for rugs, as seat cover material[s]" as required by Hartstein.

Under these circumstances, we are constrained to agree with the Appellants that the Examiner has not established a prima facie case of obviousness within the meaning of 35 U.S.C. § 103.

CONCLUSION

In summary;

1) The Examiner's § 102(b) rejection of claims 158 through 161, 164 through 166, 169, 170, 172 through 176, 178, 179, 186 through 188, and 192 through 199 as anticipated by the disclosure of Sabee is affirmed;

2) The Examiner's § 103(a) rejection of claims 162, 163, 167, 168, 171, 177, 180 through 185, and 189 through 191 as unpatentable over the disclosure of Sabee is affirmed;

3) The Examiner's § 103(a) rejection of claims 168, 190, and 191 as unpatentable over the combined disclosures of Sabee and Pittman is affirmed;

4) The Examiner's § 103(a) rejection of claims 158 through 167, 169 through 189, and 192 through 199 as unpatentable over the combined disclosures of Hartstein and Jarrell is reversed; and

5) The Examiner's § 103(a) rejection of claims 168, 190, and 191 as unpatentable over the combined disclosures of Hartstein, Jarrell, and Pittman is reversed.

ORDER

In view of the foregoing, the decision of the Examiner is affirmed.

AFFIRMED

PL Initials
Sld

Appeal 2007-4239
Application 09/869,941

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